AMENDMENTS TO THE CLAIMS:

The following listing of claims replaces all prior versions of the claims.

LISTING OF CLAIMS:

14. (currently amended) A nucleic acid of ORF-R of Human Immunodeficiency Virus Type 1 (HIV-1) comprising the sequence:

```
8250         8260         8270         8280         8290         8300
  GA  CAGGGCTTGG  AAAGGATTTT  GCTATAAGAT  GGGTGGCAAG  TGGTCAAAAA

      8310         8320         8330         8340         8350
GTAGTGTGGT  TGGATGGCCT  ACTGTAAGGG  AAAGAATGAG  ACGAGCTGAG

      8360         8370         8380         8390         8400
CCAGCAGCAG  ATGGGGTGGG  AGCAGCATCT  CGAGACCTGG  AAAAACATGG

      8410         8420         8430         8440         8450
AGCAATCACA  AGTAGCAATA  CAGCAGCTAC  CAATGCTGCT  TGTGCCTGGC

      8460         8470         8480         8490         8500
TAGAAGCACA  AGAGGAGGAG  GAGGTGGGTT  TTCCAGTCAC  ACCTCAGGTA

      8510         8520         8530         8540         8550
CCTTTAAGAC  CAATGACTTA  CAAGGCAGCT  GTAGATCTTA  GCCACTTTTT

      8560         8570         8580         8590         8600
AAAAGAAAAG  GGGGGACTGG  AAGGGCTAAT  TCACTCCCAA  CGAAGACAAG

      8610         8620         8630         8640         8650
ATATCCTTGA  TCTGTGGATC  TACCACACAC  AAGGCTACTT  CCCTGATTGG

      8660         8670         8680         8690         8700
CAGAACTACA  CACCAGGGCC  AGGGGTCAGA  TATCCACTGA  CCTTTGGATG

      8710         8720         8730         8740         8750
GTGCTACAAG  CTAGTACCAG  TTGAGCCAGA  TAAGGTAGAA  GAGGCCAATA

      8760         8770         8780         8790         8800
AAGGAGAGAA  CACCAGCTTG  TTACACCCTG  TGAGCCTGCA  TGGAATGGAT

      8810         8820         8830         8840         8850
GACCCTGAGA  GAGAAGTGTT  AGAGTGGAGG  TTTGACAGCC  GCCTAGCATT
```

```
      8860         8870         8890         8900
TCATCACGTG  GCCCGAGAGC  TGCATCCGGA  GTACTTCAAG  AACTGC,
```

wherein the nucleic acid is in ~~an~~ a eukaryotic expression vector that expresses a protein comprising the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSSNTAAT NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLH PVSLHGMDDPEREVLEWRFDSRLAFHHVARELHPEYFKNC.

15. (currently amended) The nucleic acid of claim 14, wherein the nucleic acid is in a ~~eukaryotic~~ mammalian expression vector.

16. (previously presented) A nucleic acid of ORF-R of Human Immunodeficiency Virus Type 1 (HIV-1) comprising the sequence:

```
8250         8260         8270         8280         8290         8300
  GA  CAGGGCTTGG  AAAGGATTTT  GCTATAAGAT  GGGTGGCAAG  TGGTCAAAAA

      8310         8320         8330         8340         8350
GTAGTGTGGT  TGGATGGCCT  ACTGTAAGGG  AAAGAATGAG  ACGAGCTGAG

      8360         8370         8380         8390         8400
CCAGCAGCAG  ATGGGGTGGG  AGCAGCATCT  CGAGACCTGG  AAAAACATGG

      8410         8420         8430         8440         8450
AGCAATCACA  AGTAGCAATA  CAGCAGCTAC  CAATGCTGCT  TGTGCCTGGC

      8460         8470         8480         8490         8500
TAGAAGCACA  AGAGGAGGAG  GAGGTGGGTT  TTCCAGTCAC  ACCTCAGGTA

      8510         8520         8530         8540         8550
CCTTTAAGAC  CAATGACTTA  CAAGGCAGCT  GTAGATCTTA  GCCACTTTTT

      8560         8570         8580         8590         8600
AAAAGAAAAG  GGGGGACTGG  AAGGGCTAAT  TCACTCCCAA  CGAAGACAAG

      8610         8620         8630         8640         8650
ATATCCTTGA  TCTGTGGATC  TACCACACAC  AAGGCTACTT  CCCTGATTGG
```

```
      8660         8670         8680         8690         8700
CAGAACTACA   CACCAGGGCC   AGGGGTCAGA   TATCCACTGA   CCTTTGGATG

      8710         8720         8730         8740         8750
GTGCTACAAG   CTAGTACCAG   TTGAGCCAGA   TAAGGTAGAA   GAGGCCAATA

      8760         8770         8780         8790         8800
AAGGAGAGAA   CACCAGCTTG   TTACACCCTG   TGAGCCTGCA   TGGAATGGAT

      8810         8820         8830         8840         8850
GACCCTGAGA   GAGAAGTGTT   AGAGTGGAGG   TTTGACAGCC   GCCTAGCATT

      8860         8870         8890         8900
TCATCACGTG   GCCCGAGAGC   TGCATCCGGA   GTACTTCAAG   AACTGC,
```

wherein the nucleic acid is in a yeast expression vector that expresses a protein comprising the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSSNTAAT NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLH PVSLHGMDDPEREVLEWRFDSRLAFHHVARELHPEYFKNC.

17. (currently amended) A recombinant ~~prokaryotic~~ eukaryotic expression vector comprising a nucleic acid fragment of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the vector expresses a protein comprising the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSSNTAAT NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLH PVSLHGMDDPEREVLEWRFDSRLAFHHVARELHPEYFKNC.

18. (currently amended) A recombinant ~~*E. coli*~~ mammalian expression vector comprising a nucleic acid fragment of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the vector expresses a protein comprising the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSSNTAAT
NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI
LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLH
PVSLHGMDDPEREVLEWRFDSRLAFHHVARELHPEYFKNC.

19. (previously presented) A recombinant yeast expression vector comprising a nucleic acid fragment of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the vector expresses a protein comprising the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSSNTAAT
NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI
LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLH
PVSLHGMDDPEREVLEWRFDSRLAFHHVARELHPEYFKNC.

20. (currently amended) A nucleic acid of ORF-R of Human Immunodeficiency Virus Type 1 (HIV-1) comprising the sequence:

```
8250        8260        8270        8280        8290        8300
  GA  CAGGGCTTGG  AAAGGATTTT  GCTATAAGAT  GGGTGGCAAG  TGGTCAAAAA

      8310        8320        8330        8340        8350
GTAGTGTGGT  TGGATGGCCT  ACTGTAAGGG  AAAGAATGAG  ACGAGCTGAG

      8360        8370        8380        8390        8400
CCAGCAGCAG  ATGGGGTGGG  AGCAGCATCT  CGAGACCTGG  AAAAACATGG

      8410        8420        8430        8440        8450
AGCAATCACA  AGTAGCAATA  CAGCAGCTAC  CAATGCTGCT  TGTGCCTGGC

      8460        8470        8480        8490        8500
TAGAAGCACA  AGAGGAGGAG  GAGGTGGGTT  TTCCAGTCAC  ACCTCAGGTA
```

```
      8510        8520        8530        8540        8550
CCTTTAAGAC  CAATGACTTA  CAAGGCAGCT  GTAGATCTTA  GCCACTTTTT

      8560        8570        8580        8590        8600
AAAAGAAAAG  GGGGGACTGG  AAGGGCTAAT  TCACTCCCAA  CGAAGACAAG

      8610        8620        8630        8640        8650
ATATCCTTGA  TCTGTGGATC  TACCACACAC  AAGGCTACTT  CCCTGATTGG

      8660        8670        8680        8690        8700
CAGAACTACA  CACCAGGGCC  AGGGGTCAGA  TATCCACTGA  CCTTTGGATG

      8710        8720        8730        8740        8750
GTGCTACAAG  CTAGTACCAG  TTGAGCCAGA  TAAGGTAGAA  GAGGCCAATA

      8760        8770        8780        8790        8800
AAGGAGAGAA  CACCAGCTTG  TTACACCCTG  TGAGCCTGCA  TGGAATGGAT

      8810        8820        8830        8840        8850
GACCCTGAGA  GAGAAGTGTT  AGAGTGGAGG  TTTGACAGCC  GCCTAGCATT

      8860        8870        8890        8900
TCATCACGTG  GCCCGAGAGC  TGCATCCGGA  GTACTTCAAG  AACTGC,
```

wherein the sequence is linked to a promoter in ~~an~~ a eukaryotic expression vector that allows the expression of a protein comprising the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSSNTAAT NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLH PVSLHGMDDPEREVLEWRFDSRLAFHHVARELHPEYFKNC.

21-22. (canceled)

23. (previously presented) The nucleic acid of claim 20, wherein the nucleic acid is linked to a promoter in a yeast expression vector.

24. (previously presented) The nucleic acid of claim 20, wherein the nucleic acid is linked to a promoter in a mammalian expression vector.

25. (currently amended) An isolated ~~nucleic acid~~ eukaryotic expression vector that expresses Nef protein of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the sequence hybridizes under stringent conditions to a DNA comprising the sequence:

```
8250        8260        8270        8280        8290        8300
  GA  CAGGGCTTGG  AAAGGATTTT  GCTATAAGAT  GGGTGGCAAG  TGGTCAAAAA

      8310        8320        8330        8340        8350
GTAGTGTGGT  TGGATGGCCT  ACTGTAAGGG  AAAGAATGAG  ACGAGCTGAG

      8360        8370        8380        8390        8400
CCAGCAGCAG  ATGGGGTGGG  AGCAGCATCT  CGAGACCTGG  AAAAACATGG

      8410        8420        8430        8440        8450
AGCAATCACA  AGTAGCAATA  CAGCAGCTAC  CAATGCTGCT  TGTGCCTGGC

      8460        8470        8480        8490        8500
TAGAAGCACA  AGAGGAGGAG  GAGGTGGGTT  TTCCAGTCAC  ACCTCAGGTA

      8510        8520        8530        8540        8550
CCTTTAAGAC  CAATGACTTA  CAAGGCAGCT  GTAGATCTTA  GCCACTTTTT

      8560        8570        8580        8590        8600
AAAAGAAAAG  GGGGGACTGG  AAGGGCTAAT  TCACTCCCAA  CGAAGACAAG

      8610        8620        8630        8640        8650
ATATCCTTGA  TCTGTGGATC  TACCACACAC  AAGGCTACTT  CCCTGATTGG

      8660        8670        8680        8690        8700
CAGAACTACA  CACCAGGGCC  AGGGGTCAGA  TATCCACTGA  CCTTTGGATG

      8710        8720        8730        8740        8750
GTGCTACAAG  CTAGTACCAG  TTGAGCCAGA  TAAGGTAGAA  GAGGCCAATA

      8760        8770        8780        8790        8800
AAGGAGAGAA  CACCAGCTTG  TTACACCCTG  TGAGCCTGCA  TGGAATGGAT

      8810        8820        8830        8840        8850
GACCCTGAGA  GAGAAGTGTT  AGAGTGGAGG  TTTGACAGCC  GCCTAGCATT

      8860        8870        8890        8900
TCATCACGTG  GCCCGAGAGC  TGCATCCGGA  GTACTTCAAG  AACTGC.
```

26. (canceled)

27. (currently amended) An isolated ~~nucleic acid~~ eukaryotic expression vector that encodes the following amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSSNTAATNAACA
WLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDLWI
YHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLHPVSL
HGMDDPEREVLEWRFDSRLAFHHVARELHPEYFKNC.

28. (currently amended) A method of expressing an HIV-1 protein comprising inserting an expression vector of any of claims 17-19, 25, and 27 ~~a recombinant nucleic acid molecule that encodes the following amino acid sequence:~~

~~MGGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSSNTAATNAACA
WLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDLWI
YHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLHPVSL
HGMDDPEREVLEWRFDSRLAFHHVARELHPEYFKNC~~

into a host cell under conditions suitable for the expression of the amino acid sequence.

29. (currently amended) A method of making a ~~recombinant nucleic acid molecule~~ eukaryotic expression vector that encodes the following amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSSNTAATNAACA
WLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDLWI
YHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLHPVSL
HGMDDPEREVLEWRFDSRLAFHHVARELHPEYFKNC

comprising replicating the ~~recombinant nucleic acid molecule~~ eukaryotic expression vector in a host cell.